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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/913,344

08/10/2001

Gerhard Hans Schleier

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7590

06/18/2004

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EXAMINER

GAKH, YELENA G

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/913,344	SCHLESER ET AL.	
Examiner	Art Unit	
Yelena G. Gakh, Ph.D.	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-14 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-14 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/ISB/08)
- Paper No(s)/Mail Date 08/10/07
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Amendment to the claims and the specification and the formal drawings, filed on 06/02/04 are acknowledged. Claims 9-14 and 18 are pending in the application.

Response to Amendment

2. Objection to the specification and the claims, as well as rejection of the pending claim under 35 U.S.C. 112, first paragraph are withdrawn in view of the amendment.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 13-14 and 18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is not clear regarding the structure claimed, since it is not apparent, why two opposite sides should be opened to replace the solid. Moreover, Figure 1 does not show two opposite sides to be opened for replacing the solid and the graphite crucible, which makes the structure recited in the claim unclear.

The language of claim 14 is still unclear. What does it mean "wherein the graphite crucible is elongated whereby at a lower end a cavity is provided"? "A lower end" of what? The examiner suggests rephrasing it as e.g. "wherein the graphite crucible is elongated with its lower end comprising a cavity which can receive...".

Claim 18 is unclear as to which gas is meant by the expression "said gas" in the last subparagraph of the claim. If this is the gas comprising carbon oxides of the previous subparagraph, then it cannot contain oxygen liberated from the solid, since oxygen will react with carbon to produce the gas comprising carbon oxides.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 9-10, 13-14** are rejected under 35 U.S.C. 102(b) as being anticipated by Atkinson (GB 1,052,907, IDS).

Atkinson discloses an apparatus for removing oxygen from solid (copper and copper alloys) in form of carbon oxides by melting alloy in a "graphite cuvette" (graphite crucible); the apparatus comprises the graphite crucible (col. 2, line 59, Fig. 1, A and H), provided in a quartz glass housing ("transparent fused silica envelope (Z)") attached to the pump to create high vacuum, col. 3, lines 59-64); a rode (W) with which the graphite cuvette can be mounted in the housing; and heating induction means (X,Y).

7. **Claims 9-14 and 18** are rejected under 35 U.S.C. 102(b) as being anticipated by Glavin et al. (SU 394,699).

Glavin discloses "an apparatus for extracting gaseous impurities from analyzed metals and their alloys" (Title) teaching the following: "increased accuracy, sensitivity and speed of analysis are obtained by placing the h.f. inductive current concentrator inside the cooling jacket of the vacuum furnace. The concentrator is made in the form of demountable copper cylinder inside which is soldered the h.f. inductor coil. This construction greatly accelerates the crucible degassing and sample melting stages, which reduces the analysis time. The furnace operates at 10-6 torr. and the inductor and concentrator focus the radiation from inductor on to the crucible. The latter is made from graphite and heats up to 2500-2700 degrees C for degassing. After this the sample is introduced and melted and the generated gases are pumped to qualitative and quantitative gas analysis. The degassing time takes 1-3 mins. and the analysis time 1-2 mins" (Abstract). The apparatus comprises quartz water-cooled vacuum induction furnace (1), high-voltage high-frequency inductor (2), graphite crucible (3), graphite screen (4),

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current concentrator (5) and inductor (6). The outlet for pumping the gases out of the apparatus can serve as a duct for admitting a carrier gas. The rod on which the graphite crucible is mounted to be placed in the housing is shown in the Figure (without the reference number).

Response to Arguments

8. First, the examiner would like to apologize for two obvious errors made in the previous Office action: placing the pending claims in the box for allowed claims in PTO-326 form and referring to Atkinson patent as US instead of GB.

The arguments regarding the prior art refer mostly to the method steps, rather than apparatus parts. The apparatus of Atkinson and Glavin comprise exactly the same parts and are capable of the same functions as those recited in the pending claims. "Apparatus claims must be structurally distinguishable from the prior art in terms of structure not function", see *In Re Danley*, 120 USPQ 528,531 (CCPA 1959); *Hewlett-Packard Co. V. Bausch and Lomb, Inc.*, 15 USPQ2d 1525, 1528 (Fed.Cir. 1990). "Manner of operating the device does not differentiate apparatus claim from the prior art - if the prior art apparatus teaches all of the structural limitations of the claim", see *Ex Parte Masham*, 2USPQ2d 1647 (BPAI 1987).

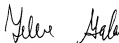
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yelena G. Gakh, Ph.D. whose telephone number is (571) 272-1257. The examiner can normally be reached on 9:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yelena G. Gakh
6/16/04

A handwritten signature in black ink, appearing to read "Yelena Gakh", is positioned to the right of the typed name.